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ZORINA, A.V.; ESTULINA, A.I., inzh.; BOGOSLOVSKIY, S.S., inzh.; DEYEVA, N.A., inzh.; DYUKOVA, L.M., inzh.; MODEL', B.I., tekhn. red.; DEMKINA, N.F., tekhn. red.

[Time norms for machine and manual molding operations for iron, steel, and nonferrous metal founding in general machinery construction; batch and small-run production] Obshchemashinostroitel'nye normativy vremeni na mashinnuiu i ruchnuiu formovku liteinykh form dlia chugunnogo, stal'nogo i tsvetnogo lit'ia; seriinoe i melkoseriinoe proizvodstvo. Moskva, Mashgiz, 1962. 322p. (MIRA 15:7)

1. Moscow. TSentral'noye byuro promyshlennykh normativov po trudu. 2. Nauchno-issledovatel'skiy institut aviatsionnoy tekhnologii (for all except Model', Demkina).
(Founding--Production standards)

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COUNTRY : USSR
CATEGORY : Farm Animals. General Problems. 3-1

ABS. JOUR. : RZBiol., No. 4, 1959, No. 16619

AUTHOR : Devov, N. G.
INST. : Altai Institute of Agriculture.
TITLE : The Dynamics of Nutritive Substances of Corn and Their Utilization in the Green Conveyor Method.
ORIG. PUB. : Sb. stud. nauchn. rabot. Altaysk. s.-kh. in-t, 1957, vyp. 6, 44-50
ABSTRACT : Data are cited on the yield of corn at the Altayskiy sugar combine (Altai) when various methods of planting were used, as well as in terms of its content of nutritive substances at various stages of vegetation. The highest yield is obtained with checkrow planting, when the nests are arranged in 45 x 45 cm (694 centners/hectare) and with a wide-row planting where the width between rows amounts to 45 cm (718 centners/hectare) and 30 cm

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Country : USSR
CATEGORY : Farm Animals. General Problems. Q-1

ABS. JOUR. : RZBiol., No. 4, 1959, No. 16610

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : (748 centners/hectare). The green mass reserve of the corn amounted to 73-84 percent of the total yield during the period of the male inflorescence being cast off and to 72-79 percent at later development stages. At early development stages and when yields are not very large, corn may be fed on the cob (90-93 percent is eaten), at later stages (before frost) it may be fed from feeders and in ground form. -- A. D. Pusin

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DEYEV, N. I.

Excavation

Work method of scraper operator P. F. Nosov. Sbor. mat. o nov. tekh. v stroi. 15, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

137-58-1-1123

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 152 (USSR)

AUTHOR: Deyev, P. G.

TITLE: Results of the Employment of Welded and Welded- cast Construction in Power Equipment at the Khar'kov Turbine Works (Rezul'taty primeneniya svarnykh i svarno-litykh konstruktsiy energooborudovaniya na Khar'kovskom turbinnom zavode)

PERIODICAL: V sb.: Novoye v konstruirovanii tyazh. mashin. Moscow, Mashgiz, 1956, pp 263-270

ABSTRACT: Over 500 small and medium-sized cast parts for the AK-50, VR-25, and TV-7 steam turbines, and over 300 for the VKT-100 and MK-30 turbines have been converted to manufacture by welding at the Khar'kov Turbine Plant im.Kirov. This has significantly reduced the production cycle and cut down the need for outside parts suppliers. Conversion to welding of large objects yielded the following improvement in production and cost indices: 1) replacement of the cast housing for the reduction gear and cylinder of the low-pressure TV-7 turbine reduced the man-hours needed for its manufacture by 1458, its weight by 4600 kg, and its cost by 30%; 2) replacement of the forged rotor of the

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Results of the Employment of (cont.)

low-pressure PVK-150 turbine shroud by a 9-part welded-and-forged rotor resulted in a reduction of the maximum tangential stresses in the rotor when running from 3400 to 2400 kg/cm^2, and this made it possible to use a steel having a σ_s 5000 kg/cm^2 instead of a steel of σ_s 6500 kg/cm^2, or to make the turbine with two cylindrical shrouds instead of 3, thereby reducing its length by 4-5 m; 3) replacement of cast stators of hydraulic turbines by welded stators diminished the amount of machining needed, reduced the weight between 4.3 and 30 t, and yielded 1 million rubles annual savings; 4) conversion of a hydroturbine shaft from open-die forging to welding, employing two flanges and a cylindrical thick-walled shell, diminished its weight by 32,950 kg and yielded a saving of 82.4 t of metal by reduction in metal wasted in machining. Electric slag welding is recognized to be the best method. An apparatus for destructive testing of full-sized models of shafts by resonant torsional vibration has been developed at the plant to test the strength of the seam welds.

V. S.

1. Turbines---Manufacture 2. Welding Applications

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, P.S., ispolnyayushchiy obyazannosti starshego nauchnogo sotrudnika

Electrophoretic study of blood proteins in guinea pigs in experimental paratyphoid fever. Sbor. nauch. rad. Sar. NIVS 6:63-69 '63. (MIRA 18:11)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, S.

New ideas in the construction of city bridges. Zhil.-kom. khoz. 5 no.4:23-24 '55. (MLRA 8:9)

1. Glavnyy inzhener instituta "Giprokommundortrans."
(Bridge construction)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, S.

Standard designs for streetcar and trolley bus repair shops.
Zhil.-kom.khoz. 5 no.6:11-16 '55. (MLRA 9:1)

1.Glavnyy inzhener instituta Giprokommundortrans.
(Trolley buses--Maintenance and repair) (Streetcars--
Maintenance and repair)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DMYEV, S.

Design and production of reinforced concrete railroad ties.
Zhil-kom.khoz. 7 no.4:20-21 '57. (MLRA 10:7)

1. Glavnyy inzhener instituta "Giprokommundortrans."
(Railroads--Ties, Concrete)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, S., inzh.

Organization and location of repair shops of the city passenger transportation system. Zhil.-kom. khoz. 8 no. 7:13-14 '58.
(MIRA 11:8)

(Trolley buses--Maintenance and repair)
(Streetcars--Maintenance and repair)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V., mladshiy serzhant

So that it may be easier later on... Voen. znan. 42 no.1: 14-15 Ja '66. (MIRA 19:1)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.F.

POLTEV, K.M.; DEYEV, V.F.

Improving pressing in laundries. Gor. khoz. Mosk. 30 no.9: 36-37 S '56. (MLRA 9:12)

1. Rukovoditel' sektora mekhanizatsii Akademii kommunal'nogo khozyaystva (for Poltev) 2. Direktor fabriki-prachechnoy no.3 (for Deyev).

(Laundry)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

Dey-E-V, V. I.

Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii

Trudy, Vyp. 4 (Transactions of the Institute of Metallurgy, Ural Branch, Academy of Sciences, USSR; No. 4) Sverdlovsk, 1958. 157 p. Errata slip inserted. 1,000 copies printed.

Editorial Board: N.A. Vatolin (Resp. Ed.), Candidate of Technical Sciences; A.S. Mikhaylusky, Professor, Doctor; V.Ye. Miller, Professor; P.A. Pashkov, Candidate of Technical Sciences; and S.S. Lisnyak, Candidate of Technical Sciences; Ed.: M.S. Baranovskaya.

PURPOSE: This book is intended for ferrous and nonferrous metallurgists.

COVERAGE: The book presents results of investigations of theoretical problems in metallurgy and chemistry and gives information on the efficient use of raw materials in ferrous and nonferrous metallurgy and on the development of new production processes in the metallurgical and chemical industries. The articles were written by junior members and experienced specialists of the scientific staff of the Institutes of Metallurgy, Chemistry, and Electrochemistry, Ural Branch, Academy of Sciences, USSR.

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SOV/137-59-3-5473

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 77 (USSR)

AUTHORS: Diyev, N. P., Paduchev, V. V., Vermenichev, S. A., Deyev, V. I.

TITLE: Employment of Oxygen in Nonferrous Metallurgy (Primeneniye kisloroda v tsvetnoy metallurgii)

PERIODICAL: Tr. In-ta metallurgii, Ural'skiy fil. AN SSSR, 1958, Nr 2, pp 149-168

ABSTRACT: The authors examine the feasibility of the use of O_2-enriched air in the following nonferrous metallurgy processes: For reduction shaft-smelting of Ni and Pb ores, for fuming of Zn slags, in roasting of Zn and Cu concentrates, in reverberatory smelting of Cu concentrates, and in Bessemer reduction of mattes. The authors note in this case a 30 - 40% and greater increase in the output of metallurgical production units, an increase in the amount of base metal extracted, and a decrease in construction and operating expenses. Possible changes in some technological processes and design of metallurgical production units are pointed out. For example, the application of the steam-oxygen blowing in the Bessemer reduction of Cu-matte would produce nascent sulfur but would require sealing the converter to form a

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Employment of Oxygen in Nonferrous Metallurgy

gas-tight chamber. Plans for designing a converter and a reverberatory furnace for the smelting of concentrates are proposed. The necessity of automatizing control of O_2 is noted. Bibliography: 51 references.

L. P.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.I.; VERMENICHEV, S.A.; DIYEV, N.P. [deceased]

Comparative data on liquid material losses through gas outlets in converter models. Trudy Inst. met. UFAN SSSR no.4:87-94 '58.
(MIRA 12:10)

(Converters--Models)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

VERMENICHEV, S.A., DEYEV, V.I., KOCHNEV, N.I.

Investigating the combustion of copper-zinc concentrates in an oxygen blast. Zhur.prikl.khim. 33 no.5:1036-1042 My '60.
(MIRA 13:7)

1. Institut metallurgii Ural'skogo filiala AN SSSR.
(Copper) (Zinc) (Oxidation)

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S/149/61/000/003/001/004
A006/A106

AUTHORS: Deyev, V. I., Smirnov, V. I.

TITLE: Oxidation kinetics of rhenium, molybdenum and indium sulfides in a fluidized bed

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 3 1961, 44 - 49

TEXT: Fluid-bed roasting of sulfide concentrates has lately come into extended use. The behavior of rare elements during roasting is mainly determined by the physical and chemical properties of their compounds, the oxidation rate of sulfides and the conditions under which the process is conducted. To complete literature data on this subject (Ref 1 - 4: V. D. Budon. Izv. AN KazSSR, seriya metallurgii, obogashcheniya i ogneuporov, no. 1, 1958; A. N. Zelikman, L. V. Belyayevskaya ZhNKh, vol. 1, no. 10, 1956; V. I. Bibikova, I. I. Vasilevskaya, Sb. nauchnykh trudov Giredmeta, no. 1, 1959; M. F. Stubs, J. Amer. Chem. Soc., 74, no. 4, 1952) the authors present results on oxidation kinetics of rhenium, molybdenum and indium sulfides in a fluidized bed depending on temperature, duration of roasting and oxygen concentration in the gaseous phase. The investigation was made with synthetic ReS_2, MoS_2 and In_2S_3 (composition given in table) and

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with the aid of a 20 mm - diameter quartz tube with a cone. A 12 mm-diameter porcelain grid is mounted in the lower section of the cone through which the blast is supplied to the fluid-bed at a rate of 500 cm^3/min. Sulfides of low porosity and - 0.15 + 0.20 mm size, produced from briquets pressed in a steel press mold, were used. To separate the sulfide grains and to maintain a constant temperature in the fluid bed, 4.5 g of a diluent were charged into the tube, the blast being supplied simultaneously (air or a nitrogen-oxygen mixture). Oxygen concentration in the gas mixture was 2.5; 10.0; 20.8 and 30.0%. The sulfide batch was placed into the tube when the rated temperature had been attained and thus was immediately in the high-temperature range. The temperature was controlled by a chromel--alumel thermocouple. Gaseous reaction products were back-titrated by iodine and alkaline solutions. The temperature dependence of the oxidation rate of the sulfides in a fluid-bed was studied at 250 - 600°C for rhenium sulfide; at 300 - 650°C for molybdenum sulfide and 335 - 750°C for indium sulfide. A beginning "visible" oxidation was observed at 150°C for rhenium sulfide, at 230 - 240°C for molybdenum sulfide and at 220°C for indium sulfide. A sharp increase in the rate and degree of oxidation was observed at 300 - 420, 300 - 400 and up to 520°C, respectively. Curves plotted show an accelerated reaction in the initial stage. A maximum on the oxidation rate curve for indium sulfide is most pronounced at low temperatures. The oxidation rates of rhenium and molybdenum sulfides show a well marked maximum

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also at higher temperatures. A graph shows that there are two basic reaction ranges for each sulfide: ReS_2 250 - 420 and 420 - 600°C; MoS_2 300 - 400 and 400 - 650°C; In_2S_3 335 - 530 and 530 - 750°C. The apparent activation energy of oxidation for the investigated sulfides at the upper temperature ranges is 2,000, 3,300 and 3,000 cal/mole respectively. Consequently, oxidation of these sulfides proceeds at the aforementioned temperatures within the diffusion range. When the sulfides posess a porous structure, oxidation proceeds in the intermediate range if the penetration depth of reaction exceeds the pore diameter but is smaller than the radius of the material particles, according to Zel'dovich's theory (ref 11 - ZhFKh, vol. 13, no. 2, 163, 1939). For such materials the intermediate range may be very expanded. In this case the apparent activation energy E' is equal to half of the activation energy E in the true kinetic range and the process takes place in the order $n' = \frac{n+1}{2}$ The values of apparent activation energy for the lower temperature range (250 - 420; 300 - 400 and 335 - 530°C) are respectively E'_{ReS_2} = 15,000; E'_{MoS_2} = 25,600 and $E'_{In_2S_3}$ = 24,950 cal/mole. The reactions at these temperatures proceed in the intermediate range. It was found that during oxidation of Rh, Mo and In-sulfides in a fluid-bed, the process rate was by 4 - 5 times higher than in a steady-state bed. This is explained by an increased surface of interaction and changes in the aerodynamical conditions of the process. The de-

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Oxidation kinetics of rhenium, molybdenum ...

gree of oxidation is also raised. The dependence of the oxidation rate of the sulfides on oxygen concentration in the gaseous phase was studied at temperatures of oxidation in the diffusion and intermediate range. In the diffusion range the oxidation rate increases linearly with a higher oxygen content. In the intermediate range the effect of oxygen concentration on the process rate is less marked and the order of reaction in respect to oxygen varies from one to zero with a higher oxygen concentration. The inflammation temperature of the sulfides in a fluid-bed were calculated on the basis of the oxidation rate and are 340 - 360°C for ReS_2; 360 - 380° C for MoS_2 and 450 - 460°C for In_2S_3. There are 7 figures and 13 references: 11 Soviet-block and 2 non-Soviet-block.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute) Kafedra metallurgii tyazhelykh tsvetnykh metallov (Department of Metallurgy of Heavy Non Ferrous Metals)

SUBMITTED: July 25, 1960.

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Oxidation kinetics of rhenium, molybdenum and ...

Table:

Chemical composition of sulfides (in %)

Designation	Actual		Theoretical	
	Metal	Sulfur	Metal	Sulfur
Rhenium disulfide	74.45	25.27	74.39	25.61
Molybdenum disulfide	59.62	39.70	60.00	40.00
Indium disulfide	70.30	28.70	70.47	29.53

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S/080/61/034/012/001/017
D202/D305

AUTHORS: Deyev, V.I., and Smirnov, V.I.

TITLE: The mechanism of oxidation of rhenium sulfide (IV)

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 12, 1961, 2594 - 2601

TEXT: The above study was carried out on 500 mg samples, with grain size of 0.074 mm, compacted and heated in a stream of pure, dry air (3 l/hour) either continuously in the temperature range 20 - 550°C or at definite temperatures of 225, 290, 340, 450 and 550°C. The oxidation was followed by the weight gain method and by microscopic examination of the solid oxidation products. It was found that ReS_2 reacts not only with oxygen but with rhenium tri- and septoxide as well. The latter reactions were investigated separately in sealed tubes, in an atm. of N_2, the amounts of reacting materials being chosen in such a way that the developing partial SO_2 pressure did not exceed 1 atm. Calculated equilibrium

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The mechanism of oxidation of ...

constants, based on data from Soviet and Western literature, proved that under these conditions the oxidation reaction is an irreversible one. Values of the calculated isothermal isobaric potential ΔZ^{o} and the equilibrium constant K_p for 6 possible $ReS_2 + O_2$ reactions and 2 rhenium oxide reduction with SO_2 reactions are given in a table. The effects of temperature and of the time of heating on the sulfide oxidation have proved that the process begins at 160 °C but is very slow until 225°C reaching about 5 % after heating for 1 hour. In the range of 290 - 450°C the rate rises markedly and at 450°C the reaction is practically finished after heating for 40 min., a further temperature rise having only a limited effect. The main oxidation products of ReS_2 are: Re_2O_7, ReO_3, ReO_2 and SO_2. The authors thoroughly determined the amounts of the different oxides formed: Re_2O_7 - by the loss in weight of the sample plus the amount of Re dissolved in water and ReO_2 - by treating the water extracted sample with conc. HCl. The remaining undissolved ReO_3 and ReS_2 by oxidation with aqueous alkaline H_2O_2. At 290°C the oxida-

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The mechanism of oxidation of ...

tion products consist mostly of Re_2O_7 with little ReO_3 and traces of ReO_2, the amount of the septoxide being about 40 % after one hour. At 340°C the amount of Re_2O_7 rises to 60 % that of ReO_3 to 20 % and that of ReO_2 remains almost unchanged. At 450° and 550°C during the first 15 min. heating the formation of ReO_2 is increased, falling practically to zero after 60 and 30 min. respectively, owing to its oxidation to the volatile Re_2O_7. The author studied the formation of the above oxides in relation to temperature and also microscopically on polished sections of the oxidized samples. These observations proved that at temperatures 180-220°C the oxidation of ReS_2 takes place not on the surface, but throughout the whole thickness, the oxidation product being Re_2O_7. At 225°C three oxidation zones were observed: an innermost consisting of ReS_2 and ReO_3 and intermediate one formed by loose ReO_3 and an outer layer consisting of ReO_2 formed in the author's opinion, from ReO_3 reduced by SO_2. At 290° and 340°C a ReO_2 layer appeared between the

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The mechanism of oxidation of ...

ReS_2 and ReO_3 zones, the dioxide being formed by the reaction of the sulfide and the trioxide; no outer ReO_2 layer was observed. At 450°C only two zones are found: an inner ReS_2 and an outer ReO_2 layer. At this temperature the dependence of the degree of oxidation on time of heating is linear. The effect of the structure of different oxides on the diffusion rate of gaseous reaction products is discussed. The authors also studied the following reactions of rhenium sulphide with different oxides on specially selected mixtures:

$$ReS_2 + 7Re_2O_7 = 15ReO_3 + 3SO_2 \quad I$$
$$ReS_2 + 2Re_2O_7 = 5ReO_2 + 2SO_2 \quad II$$
$$ReS_2 + 6ReO_3 = 7ReO_2 + 2SO_2 \quad III$$

The effects of temperature and time of heating on these reactions are given. Up to 400°C the reaction between ReS_2 and Re_2O_7 begins with the formation of the trioxide (reaction I) and proceeds above 450°C with the formation of the dioxide (reactions II and III). It

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The mechanism of oxidation of ...

is concluded that the first oxidation product of ReS_2 up to 210°C is Re_2O_7 which above that temperature begins to react with the sulphide, forming ReO_3; this reaction is pronounced above 300°C. There are 5 figures, 1 table and 12 references: 11 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: O. Kubashevskiy, E. Evans, 'Metallurgical Thermochemistry', London (1958).

SUBMITTED: March 6, 1961

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APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

29011

S/020/61/140/004/012/023
B106/B110

15.2600

AUTHORS: Deyev, V. I., and Smirnov, V. I., Academician of the Academy of Sciences Kazakhskaya SSR

TITLE: Saturation vapor pressures of rhenium disulfide, dioxide, and trioxide

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 4, 1961, 822-824

TEXT: For enrichment and separation of rhenium in the pyrometallurgical processing of sulfidic materials, their physicochemical properties must be known. The vapor pressures of ReS_2, ReO_2, and ReO_3 have so far only been studied by the flow method (Ref. 4: R. A. Isakova, V. D. Ponomarev, Izv. AN KazSSR, ser. metallurgii, obogashcheniya i ogneuporov (Series of metallurgy, enrichment and refractory materials), v. 3, 10 (1960); Ref. 6: Rukovodstvo po preparativnoy neorganicheskoy khimii, pod red. G. Brauer (Guide to preparative inorganic chemistry, edited by G. Brauer), IL, 1956). The authors of the present paper determined the saturation vapor pressures of these three rhenium compounds by the effusion method. The initial substances were prepared by a known method (Ref. 6). ReS_2 samples

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contained 73.88% of rhenium and 25.20% of sulfur, rhenium dioxide samples 85.98% Re, and rhenium trioxide samples 79.54% Re. The samples were reduced to a grain size < 0.1 mm. Measurements were carried out in high vacuum (10^{-5}-10^{-6} mm Hg). A small quartz ampul was used as effusion vessel, the area of the effusion hole was measured with a metallographic microscope. The equilibrium vapor pressures were calculated from Knudsen's equation which was given the following form:
$\log P = \log \Delta q + 1/2 \log T - 1/2 M - \log a - \log \tau + 4.4558$ (1)
(P - vapor pressure in mm Hg; Δq - weight of evaporated substance in mg; T - absolute temperature; a - area of the effusion hole in cm^2; τ - time of experiment in min; M - molecular weight of substance in vapors). Temperature fluctuations during the experiment did not exceed $\pm 3^{\circ}$. The vapor pressure of rhenium disulfide was determined in a temperature range of 505-700°C. The equation $\log P = -(4976/T) + 3.214$ (2) (P in mm Hg) was obtained for its temperature dependence. The value 22.66 kcal/mole results for the sublimation enthalpy. These results are in agreement with published data in Ref. 4. (R. A. Isakova, V. D. Ponomarev, Izv. AN. KazSSR, ser. metallurgii, obogashcheniya, ogneuporov, v. 3, 10 (1960)). The values obtained by the authors for the saturation vapor pressures of ReO_2 and ReO_3, on the other hand, strongly deviate from

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Saturation vapor pressures ...

published data obtained by the flow method. The maximum relative error of the effusion method is 5-6%, whereas in the flow method additional errors are possible in the case of ReO_2 and ReO_3 which are readily oxidizable on heating. These errors are due to insufficient purification of commercial nitrogen from oxygen and water vapor. The saturation vapor pressure of ReO_2 was studied in the temperature range of 650-785°C. Above 785°C, rhenium dioxide disproportionated. The temperature dependence of the saturation vapor pressure of ReO_2 follows the equation $\log P = -(14347/T) + 11.65$ (3) (P in mm Hg). $\Delta H_T^\circ = 65.64$ kcal/mole is obtained for the sublimation enthalpy. For rhenium trioxide, log P and the temperature in the range of 325-420°C are interrelated according to equation $\log P = -(10882/T) + 15.16$ (4). Thus, we obtain: $\Delta H_T^\circ = 49.78$ kcal/mole. According to Eqs. (3) and (4), the saturation vapor pressures of ReO_2 and ReO_3 reach the value of 760 mm Hg at 1363°C and 614°C, respectively. Rhenium trioxide passes over to the gaseous phase in oxidative roasting of sulfidic concentrates. There are 3 figures and 9 Soviet references.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

29011
S/020/61/140/004/012/023
B106/B110

Saturation vapor pressures ...

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR
Institute of Metallurgy of the Ural Branch of the Academy of Sciences USSR)

SUBMITTED: April 24, 1961

Card 4/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.I.; OKUNEV, A.I.; KOCHNEV, M.I.; VERMENICHEV, S.A.; SERGIN, B.I.

Behavior of rare and disseminated elements during the smelting of sulfide concentrates with oxygen. Trudy Inst. met. UFAN SSSR no.8:43-50 '63. (MIRA 17:9)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.I.; KOCHNEV, M.I.; SMIRNOV, V.I.

Rhenium behavior during converter smelting with an oxygen-enriched blow. Trudy Inst. met. UFAN SSSR no.8:61-68 '63.
(MIRA 17:9)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

KOCHNEV, M.I.; VERMENICHEV, S.A.; DEYEV, V.I.

Results of investigating smelting in a liquid bath with an oxygen enriched blow. Trudy Inst. met. UFAN SSSR no.8: 69-73 '63. (MIRA 17:9)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ACCESSION NR: AP4021561 S/0136/64/000/003/0063/0066

AUTHORS: Deyev, V. I.; Smirnov, V. I.

TITLE: The behavior of rhenium during oxidizing roasting of molybdenum concentrates

SOURCE: Tsvetny*ye metally*, no. 3, 1964, 63-66

TOPIC TAGS: rhenium, rhenium trioxide, rhenium heptoxide, oxidation, vapor pressure, sulfide, reaction rate, sulfur dioxide, sublimation

ABSTRACT: Although a number of papers are devoted to oxidizing roasting many questions remain to be clarified. V. M. Petrov (Author's abstract of a dissertation published by the Krasnoyarsk Institute of Nonferrous Metallurgy, 1961), for example, attributes the incomplete rhenium sublimation to the possible reaction of Re_2O_7 with MoS_2 and ReS_2 with MoO_3 which is accompanied by the formation of lower Rh oxides. The authors found that the oxidation of rhenium sulfide occurs according to the reaction

$$2ReS_2 + 7.5O_2 = Re_2O_7 + 4SO_2$$

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ACCESSION NR: AP4021561

In the initial stage of the reaction, part of the rhenium heptoxide evolves with the gas while another part reacts with MoS_2 and FeS. Rhenium tri- and dioxide are formed. The experimental part was carried out as follows: At temperatures above 1160C the authors succeeded in sublimating ReO_2. Synthetic rhenium oxides and sulfides were used for the investigation of the reaction rate with MoS_2, FeS and MoO_3 in a purified nitrogen flow at a rate of 3 l/hr as well as in sealed pyrex capsules. The reaction rate was determined by the amount of sulfur in the gaseous phase and in the solid residue. Above 340C, the Re_2O_7 - MoS_2 reaction was quite vigorous and at 550C the rhenium heptoxide reaction with Mo disulfide reached 90% within 30 minutes. The red color of the condensed products of reaction shows the formation of rhenium trioxide. The reaction of Re_2O_7 with sulfur dioxide was investigated under analogous conditions. 0.250 g of Re_2O_7 and SO_2 were placed into a 40 cm^3 capsule at 760 mm Hg. which corresponds to 0.105 g sulfur dioxide. The specimens were cooled with a jet of cold air. The degree of reduction of the heptoxide amounted to a mere 7% after 60 min at 550C.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ACCESSION NR: AP4021561

Reaction of ReO_3 with MoS_2 sets in at 280-290C and that of ReO_3 with FeS at 445-450C? X-ray investigation revealed the formation of ReO_2 in the products of reaction. Above 450C and 500C respectively an appreciable acceleration of the reaction was observed reaching a maximum at 450C for MoS_2 and 560C for FeS. A further increase did not affect MoS_2. However, in view of the surface formation of iron sulfate which prevents the diffusion of ReO_3 at lower temperatures, another peak is reached above 600C in the reaction of ReO_3 to FeS, when the sulfate is destroyed. ReS_2 begins to react with MoO_3 at 300C reaching a peak at 650C so that the reaction is completed by 77% within 50 minutes. By using the excess of MoO_3 the reaction at 650 and 700C is made more complete. The authors recommend a more thorough roasting of the sinter in order to improve sublimation of Rh, working conditions which would impede the reaction of the sintering products with the initial sulfides and a supply of excess air. Sintering in an effervescing layer also enhances Rh sublimation. A further improvement over other methods was found by smelting Rh-containing copper concentrates in suspension. Orig. art. has: 9 formulae.

ASSOCIATION: None

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

S/0170/64/000/006/0008/0012

ACCESSION NR: AP4041068

AUTHOR: Deyev, V. I.; Solov'yev, A. N.

TITLE: Concerning the boiling mechanism of liquid sodium on a heating surface with natural convection

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 6, 1964, 8-12

TOPIC TAGS: liquid sodium boiling, bubble boiling, vapor generation center, bubble growth rate, bubble breakaway diameter, thermal conductivity, thermal diffusivity, liquid wetting, vapor nucleus, heating surface depression, viable nucleus size, heat exchange coefficient, natural convection

ABSTRACT: The boiling of liquid sodium on a heating surface with natural convection was studied. A bubble type boiling of a wetting liquid was assumed, and the results were compared to water boiling under normal conditions. The boiling was studied by considering the various stages in the life cycle of a bubble formed at vapor generation centers (holes in the heating surface). Vapor nuclei formed at the generation centers are viable only above a critical size which depends on the form of the vapor generation center and the degree of

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ACCESSION NR: AP4041068

wettability of the surface by liquid sodium. It can be calculated on the basis of the work by S. S. Kutateladze (Osnovy* teorii teploobmena. Mashgiz, 1962), valid for vapor formation in a superheated liquid. This method of calculation may be used in a nonuniform temperature field, provided the temperature change over a distance comparable to the nucleus size is small and can be disregarded. The critical sodium nucleus is larger than that of water and decreases under increasing pressure. The rather large nucleus size required in the case of sodium limits the number of generation centers. On a smooth surface boiling is difficult and occurs only in the superheated liquid at the heating surface. For this reason, in liquid sodium the degree of roughness of the heating surface has a significant effect on the heat exchange. Bubbles above the critical size grow quickly by absorbing vapor of the superheated liquid on the heating surface. The coefficient of heat exchange for liquid sodium at low pressures is close to that for water under normal conditions. The bubble growth rate in sodium is larger than in water as a result of the greater sodium thermal diffusivity; the rate of bubble growth and breakaway diameter can be calculated. The breakaway mechanism differs considerably from that in water due to rapid bubble growth requiring the liquid resistant force to be included. At lower pressures the surface tension force can be ignored, but at higher pressures it becomes comparable to the resistance. At atmospheric

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ACCESSION NR: AP4041068

pressure sodium and water breakaway diameters are comparable, but at lower pressures the sodium bubble diameter is greater. After breakaway of the bubble a new bubble cannot form until the liquid is again superheated. The necessary time can be calculated and is related to thermal conductivity. Since sodium bubbles are larger, the reheat time must be longer in order to produce a sufficiently thick superheated layer. As the bubble rises to the surface there is an intense heat exchange from evaporation into the bubble. This causes constant bubble growth. Sodium bubbles are shaped like mushrooms and rise at 24 cm/sec (as do water bubbles), but their faster growth causes them to attain a larger size than that of water bubbles. Orig. art. has: 6 equations.

ASSOCIATION: Institut teplofiziki Sibirskogo otdeleniya AN SSSR, Novosibirsk' (Institute of Thermal Physics, Siberian division, AN SSSR)

SUBMITTED: 29Apr63 ENCL: 00

SUB CODE: MM, TD NO REF SOV: 003 OTHER: 012

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEMEV, V.I.; SOLOV'YEV, A.N.

Mechanism underlying the boiling of liquid sodium on the heating surface in free convection. Inzh. fiz. zhur. 7 no.6:8-12 '64. (MIRA 17:12)

1. Institut teplofiziki Sibirskogo otd-leniya AN SSSR, Novosibirsk.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEIEV, [illegible]; GUSEV, V.V., inzh.; DIBROVSKIY, G.F., inzh.

[illegible] of the mechanism of the boiling of water at decreased pressures. Teploenergetika 12 no.8:73-75 Ag '65. (MIRA 18:9)

1. Moskovskiy inzhenerno-fizicheskiy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.M.

Temperature distribution in turbomachine disks. Sbor.trud.lab. probl.bystr.mash. no.4:133-140 '53. (MLRA 7:12)
(Turbomachines--Impellers)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.M.

AUTHOR: Deyev, V.M. 21-1-6/26

TITLE: On the Solution of the Space Problem of Elasticity Theory (K reshcheniyu prostranstvennoy zadachi teorii uprugosti)

PERIODICAL: Dopovidi Akademii Nauk Ukrains'koi RSR, 1958, # 1, pp 29-32 (USSR)

ABSTRACT: The author derives a general solution of the system of fundamental equations of the elasticity theory consisting of the differential equation of equilibrium and the Beltrami equation. This general solution expressed in harmonic functions looks as follows:

$$\sigma = \frac{1}{4\pi(1-\nu)} \nabla^2 \int_D \frac{\nabla^2 \cdot \xi}{r} d\pi + \nabla^2 \cdot \xi + \xi \cdot \nabla^2 + \frac{\nu}{1-\nu}$$

$$\nabla^2 \cdot \cdot \xi I + C \nabla^2 \xi_I$$

where σ - is the stress tensor, ν - is the Poisson coefficient, ∇ - is the Hamilton operator, ξ - is an arbitrary harmonic symmetric tensor of the second rank, ξ_I - is

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its first invariant, τ - is the radius-vector of a point (x, y, z), C-is an arbitrary constant, I - is a unitary tensor, and a point denotes scalar multiplication.

This formula includes space integrals of the Newtonian potential and harmonic functions which are components of the ξ - tensor. The solution can also be expressed by means of biharmonic functions, if a symmetrical biharmonic tensor of the second rank is introduced. The author shows that the solution includes, as a special case, the solutions given in References 3 to 8. It is also shown that it is possible to reduce this solution to the form of J. Boussineska-Galerkin's solution by introducing a specially chosen biharmonic vector.

The article contains 7 Russian and 2 German references.

ASSOCIATION: Khar'kov Automobile-Road Institute (Kharkivs'kyy avtomobil'-no-shlyakhovyy instytut)

PRESENTED: By Academician of the Ukrainian Academy of Sciences G.N. Savin (Ukrainian spelling: G.M.)

SUBMITTED: 18 March 1957

AVAILABLE: Library of Congress

Card 2/2 1. Elasticity-Theory 2. Differential equations 3. Harmonic functions

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

AUTHOR: Deyev, V.M. 21-58-7-5/27

TITLE: On the Solution of the Three-Dimensional Problem of the Theory of Elasticity for Anisotropic Media (K resheniyu trekhmernoy zadachi teorii uprugosti anizotropnoy sredy)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 7, pp 707-711 (USSR)

ABSTRACT: A general solution of Lame's equations for the three-dimensional problem of the theory of elasticity has been obtained for an anisotropic medium (rectilinear anisotropy). The solution is expressed through the three similar functions defined by a differential equation of the sixth order. The expressions for the displacements contain differential operations of the fourth order on these functions. In the case of isotropic bodies, the solution is reduced to the well-known solution of Boussinesq-Galerkin expressed through three biharmonic Laplacians of these fuctions. In the case of an orthotropic medium the solution is similar to that obtained by Mossakovskaya (Ref. 2). There are 2 Soviet references.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

21-58-7-5/27

On the Solution of the Three-Dimensional Problem of the Theory of Elasticity for Anisotropic Media

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Highway Institute)

PRESENTED: By Member of the AS UkrSSR, G.N. Savin

SUBMITTED: February 5, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Elasticity--Theory 2. Lame's equations 3. Sixth order equations--Applications

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APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

16(1) SOV/21-59-3-6/27

AUTHOR: Deyev, V.M.

TITLE: On the Calculation of Thick Elastic Plates (K raschëtu tolstykh uprugikh plit)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 3, pp 252-257 (USSR)

ABSTRACT: The author presents a new method for finding particular solutions of equilibrium equations in displacements, solving the space problem of the theory of elasticity in application to thick plates. The boundary conditions on the lateral surface of the plate are satisfied in the sense of Saint Venant. There are 1 graph and 3 references, 2 of which are Soviet and 1 English.

ASSOCIATION: Khar'kovskiy avto-dorozhnyy institut (Khar'kov Auto-Road Institute)

PRESENTED: June 6, 1958, by F.P. Belyankin, Member of the AS UkrSSR

Card 1/1

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

SOV/21-59-4-10/27

16(1)

AUTHOR: Deyev, V.M.

TITLE: The Expression of Tensor of Stresses by Means of Harmonic Functions

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 4, pp 387-391 (USSR)

ABSTRACT: Relating R tensor of the third order (3) containing 10 various coordinate components b_i to a tensor Ψ of dependence (4), the author establishes that tensor R must be harmonic and its components must be bound by three differential dependences of the second order. He formulates a tensor of stresses expressed by harmonic tensor (7), and produces a series of expressions of components of tensor of stresses by the Cartesian system of coordinates (9). Through a series of other calculations, the author formulates the final solution of spatial problem of the theory of elasticity, expressed by means of an arbitrary

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

The Expression of Tensor of Stresses by Means of Harmonic Functions

harmonic symmetric tensor of the second order (16). There are 5 Soviet references.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile and Road Institute)

PRESENTED: By F.P. Belyankin, Member of the AS Ukr SSR

SUBMITTED: October 28, 1958

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

16 (1) SOV/21-59-6-9/27

AUTHOR: Deyev, V. M.

TITLE: On the Solution of the Harmonic and Biharmonic Problems for a Layer

PERIODICAL: Dopovidi Akademii Nauk Ukrains'koi RSR, 1959, Nr 6, pp 611 - 614 (USSR)

ABSTRACT: The author presents a method of reducing the harmonic and biharmonic boundary problems for a layer limited in its plane, to a two-dimensional problem of metaharmonic equation, by a specific way of superpositioning of separate solutions. The object of examination is a 2h thick layer, the middle of whose area is connected with the coordinated area of variables x and y of an arbitrary system of coordinates. 1. A harmonic problem. The author finds function $u(x, y, z)$ which satisfies for the middle of the layer the equation

$$\Delta u = 0 \qquad (1.1)$$

representing u_j in the form of

$$u_j = \varphi_j(z)\psi_j(x,y) \qquad (1.2)$$

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which implies that $\varphi_j(z)$ must be equal to

$$A_j S(\lambda_j z) + B_j C(\lambda_j z) \tag{1.3}$$

and $$\Delta\psi_j + (\delta_j)^2 \psi_j = 0 \tag{1.4}$$

where δ_j may appear as $\delta_j = \lambda_j$, (1.5)

or $$\delta_j = \sqrt{-1}\lambda_j. \tag{1.6}$$

When $\delta_j = \lambda_j$ the functions $S(\lambda_j z)$ and $C(\lambda_j z)$ will be hyperbolic functions $\mathrm{sh}\,\lambda_j z$ and $\mathrm{ch}\,\lambda_j z$, whereas at

$$\delta_j = \sqrt{-1}\lambda_j$$

Card 2/5 they will be trigonometric functions $\sin\lambda_j z$ and $\cos\lambda_j z$.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On the Solution of the Harmonic and Biharmonic Problems for a Layer

Assuming that "s" is an integer, the author represents the 1.1 as a final sum

$$u_s(x,y,z) = \sum_{j=1}^{s} \varphi_j(z)\psi_j(x,y) \qquad (1.7)$$

Any dissimilar boundary conditions on facets $z = \pm h$ are reduced to two possible situations:

a) $u(x, y, \pm h) = P(x,y)$; b) $u(x,y, \pm h) = \pm Q(x,y)$. (1.8)

Representing the functions

$$P(x,y,) = \sum_{j=1}^{s} \gamma_{1j}\psi_j(x,y); \text{ and } Q(x,y,) = \sum_{j=1}^{s} \gamma_{2j}\psi_j(x,y,) \qquad (1.9)$$

the author formulates the solution for a) as

$$u_s = \sum_{j=1}^{s} \frac{C(\lambda_j z)}{C(\lambda_j h)}\psi_j(x,y) \qquad (1.10)$$

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On the Solution of the Harmonic and Biharmonic Problems for a Layer

and for b) as

$$u_s = \sum_{j=1}^{s} \frac{S(\lambda_j z)}{S(\lambda_j h)} \psi_j(x,y) \qquad (1.11)$$

When t (common multiplier for all parameter values λ_j) is known, the final formula representing the condition (1.1) is:

$$U(x,y,z) = \sum_{t} u_s(x,y,z) \qquad (1.15)$$

2. A biharmonic problem. In this section the author performs a series of calculations similar to those contained in the first section, searching at first for a function u satisfying in the middle of the layer the equation

$$\Delta \Delta u = 0 \qquad (2.1)$$

and representing u_j in the form of $u_j(x,y,z) = \varphi_j(z)\psi_j(x,y)$ (2.2)

Card 4/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On the Solution of the Harmonic and Biharmonic Problems for a Layer

3. An example of application. In this section the author applies his formulations arrived at in the first section for solving a harmonic problem where s = 2 and where the layer is of a spherical form, whose boundary conditions have no dependence on the polar angle. The final solution of this problem appears in the form

$$U(r) = \sum_{t}' \gamma_{11} \left\{ \frac{\mathrm{ch}tz}{\mathrm{ch}th} J_o(tr) - \frac{\cos tz J_o(tR)}{\cos th I_o(tR)} I_o(tr) \right\}$$

There are 6 Soviet references.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile Road Construction Institute)

PRESENTED: By F. P. Belyankin, Member, AS UkrSSR

SUBMITTED: June 16, 1959

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

Report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 60.

126. I. Frank (Prague): The state of stress and deformation of the Earth's crust.

103. [illegible] (Kharkov): On some new forms of the general solution of the three-dimensional problem of the theory of elasticity expressed in harmonic functions.

104. A. I. Lurie (Leningrad): Generalization of the method of elastic fundamental in structural mechanics.

105. B. V. Deriagin (Moscow), B. V. Popin (Leningrad): Surface phenomena in the mechanics of clays.

106. A. R. Rzaev (Moscow): Experimental data concerning the propagation of vibrations of different frequencies in concrete mixtures.

107. G. Ia. Popovskiy (Leningrad): Almansi's problem.

108. M. I. Dikush (Kiev): A finite difference analysis of cylindrical shells with rectangular holes.

109. M. I. Dikush (Kiev): Generalization of Nobr's method of [illegible] in problems of the theory of elasticity.

110. M. D. Dolbeg (Charkov): The construction of solutions of the equations of structural mechanics by means of special uniformly convergent series.

111. L. G. Dropkin (Leningrad): A method of investigating the [illegible] and strain and its slip lines in anisotropic multilayer metals.

112. A. F. Blaton (Novgorod-Severskiy): The stability of an elliptic [illegible] beam.

113. I. I. Vlasiuk (Leningrad), I. B. Kitaygrod (Kiev): A problem concerning elastic bodies with [illegible] changes in the course of loading, with application to the erection of structures.

114. [illegible] (Leningrad): On the shear strength of [illegible] rock foundations.

115. [illegible] (Leningrad): On friction in sandy soils and their shear strength.

116. S. S. Grigoryan (Moscow): The deformation of the ground under an elastic foundation.

117. S. S. Klenovskii (Moscow): On stresses and strains of thin-walled rods of variable cross section at normal and elevated temperatures.

118. Sh. Sh. Shikhiyev (Novgorod-Severskiy): Determination of the [illegible] of the [illegible] taking account of the heredity creep of soils.

119. Kh. A. Arutiunov (Dnepropetrovsk): The integral operator method in the theory of the creep characteristics of soils from observations in situ.

120. A. F. Bolkhov (Gorki): The elastic-plastic bending of a bar.

121. A. A. Ilyushin (Moscow): Elastic properties of a plastically deformed metals under combined loading.

122. P. M. Shurovlev, A. F. Akhmetzhin, R. A. Sprogis (Leningrad): Application of the method of characteristics to the determination of the tension in the cable of a cable elevator.

123. M. A. Aizerman (Moscow): On the properties of plastic zones in a beam under impulsive loading.

124. L. I. Slutsker (Moscow): On the [illegible]-bodies.

125. A. Ia. Aleksin, Sh. M. Katz (Leningrad): An experimental study of creep-rupture characteristics of tubes under combined stresses.

126. N. V. Zvolinskii (Moscow): The propagation of an elastic wave due to an underground explosion.

127. A. Ia. Sylosin (Moscow): On the state of stress in compression and its effect on the construction of Mohr's circles.

128. Z. A. Zlatin, [illegible] A. Ia. Fridman (Moscow): The laws of deformation and rupture kinetics.

129. A. A. Ivanov (Leningrad): Flow of water-saturated soils under dynamic loading.

130. V. S. Ivanova (Moscow): The hypothesis of energetic similarity in fatigue fracture and the welding of metals.

131. B. D. Sidyr (Voronezh): On the anisotropy of elastic and plastic bodies.

132. I. F. Ivlev, Kh. I. Zaki (Leningrad): Plastic tension and torsion of thin-walled tubes that have become anisotropic through prior plastic deformation.

133. Iu. N. Rabotov, P. M. Sokolov (Moscow): Investigation of elastic strains and vibrations in aircraft structures by means of electronic computers.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

24.4200 1327 1105

DEYEV V.M.

29172
S/021/60/000/009/005/009
D210/D303

AUTHOR: Dyeyev, V.M.

TITLE: On some new solution forms of the space problem of the elasticity theorem

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 9, 1960, 1194 - 1197

TEXT: The author attempts to find the general solution of a fundamental equation (1), for the theory of elasticity

$$\Delta u + \frac{1}{1-2\nu} \nabla^2 \cdot u = 0. \qquad (1)$$

Let u be of the following from

$$u = \alpha R + \beta(\nabla R)\cdot r + \gamma r\cdot(\nabla R) + \delta r(\nabla\cdot R) + \varepsilon r^2(\nabla^2\cdot R), \qquad (2)$$

where α, β, γ, δ, ε - constants to be found, Δ - Laplace operator, ∇ - Hamilton's operator, $\nabla^2 = \nabla\nabla$, R - any harmonic vector. Gradient of the displacement vector u has the from

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On some new solution forms ...

$$\nabla u = (\alpha + \gamma)\nabla R + \beta R\nabla + \beta(\nabla^2 R)\cdot r + \gamma[\nabla(R\nabla)]\cdot r + \delta I(\nabla\cdot R) + \varepsilon(\nabla^2\cdot R)r + (3)$$
$$+ 2\varepsilon r(\nabla^2\cdot R) + \varepsilon r^2\nabla^3\cdot R, \qquad (3)$$

where I - the unit tensor. From this equation the values for divergence $\nabla\cdot u$, rotation $\nabla \times u$ and Laplace Δu of displacement vector u could be obtained. Substituting them into Eq. (10) two conditions

$$\gamma + \delta + 2(3 - 4\nu)\varepsilon = 0$$
$$\alpha + (3 - 4\nu)\beta + 2\gamma + 2(3 - 2\nu)\delta + 4(2 - 3\nu)\varepsilon = 0 \qquad (8)$$

were obtained which constant α, β, γ, δ, ε have to fulfill. From Eqs. (8) α and γ were eliminated by β, δ, ε and by substitution into (2) the solution of Eq. (1) took the form

$$u = [(4\nu - 3)\beta + 4(1 - \nu)(\varepsilon - \delta)]R + \beta(\nabla R)\cdot r + [2(4\nu - 3)\varepsilon - \delta]r\cdot(\nabla R) + (9)$$
$$\delta r(\nabla\cdot R) + \varepsilon r^2(\nabla^2\cdot R), \qquad (9)$$

where β, δ, ε are arbitrary constants. By specifying constants, the

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On some new solution forms ...

author obtained the known formulae for u: i.e. if $\varepsilon = \delta = 0$, $\beta = -1$ was obtained.

при $\beta = 0$; $\varepsilon = \frac{1}{7-8\nu}$; $\delta = \frac{2(4\nu-3)}{7-8\nu}$,
for

$$u_4 = 4(1-\nu)R_4 + \frac{2(4\nu-3)}{7-8\nu} r(\nabla \cdot R_4) + \frac{1}{7-8\nu} r^2(\nabla^2 \cdot R_4); \qquad (13)$$

при $\varepsilon = 1$; $\delta = 2(4\nu-3)$; $\beta = \frac{4(7-8\nu)(1-\nu)}{3-4\nu}$,
for

$$u_5 = \frac{4(7-8\nu)(1-\nu)}{3-4\nu}(\nabla R_5)\cdot r + 2(4\nu-3) r(\nabla \cdot R_5) + r^2(\nabla^2 \cdot R_5); \qquad (14)$$

при $\beta = 0$; $\varepsilon = \delta = \frac{1}{8\nu-7}$,
for

$$u_6 = r\cdot(\nabla R_6) + \frac{1}{8\nu-7}[r(\nabla \cdot R_6) + r^2(\nabla^2 \cdot R_6)]; \qquad (15)$$

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

On some new solution forms...

for $\varepsilon = 0;\ \delta = -1;\ \beta = 1,$

$$u_7 = R_7 + (\nabla R_7)\cdot r + r\,(\nabla R_7) - r(\nabla . R_7); \qquad (16)$$

for $\varepsilon = 1;\ \delta = -8(1-\nu);\ \beta = 9-8\nu,$

$$u_8 = (9-8\nu)[R_8 + (\nabla R_8)\cdot r] + 2r\cdot(\nabla R_8) - 8(1-\nu)\,r(\nabla . R_8) + r^2(\nabla^2 \cdot R_8). \qquad (17)$$

Solutions (13) - (17) are new and simpler in their structure than the Papkovych ones. They are general solutions, since for any of them

$$\nabla \cdot u \neq 0;\ \nabla \times u \neq 0; \qquad (18)$$

(this is true except solution u_7 for which $\nabla \cdot u_7 = 0$). Other solutions could be obtained, taking the algebraic sum of any solutions of (1). The stress tensor corresponding to the solution Eq. (9) is presented in the form

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$$\sigma = \frac{E}{2(1+\nu)}\{[(4\nu-2)(\varepsilon+\beta)-(5-4\nu)\delta](\nabla R + R\nabla) - \\ - 8\nu\varepsilon r\cdot(\nabla^2\cdot R)I + [2(4\nu-3)\varepsilon-\delta][r\cdot(\nabla^2 R)+(R\nabla^2)\cdot r] + (\delta+2\varepsilon)[\nabla^2\cdot R)r + \\ + r(\nabla^2\cdot R)] + 2\beta(\nabla^2 R)\cdot r + [2\delta(1-2\nu)-4\nu(\varepsilon+\beta)](\nabla\cdot R)I + 2\varepsilon r^2(\nabla^3\cdot R)I. \quad (22)$$

There are 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: R. A. Eubanks, E. Sternberg, J. Rational Mech. and Anal. 5, 735, 1956.

ASSOCIATION: Kharkivs'kyy avtomobil'no dorozhnyy instytut (Automobile Highway Institute Kharkiv)

PRESENTED: by Academician G.M. Savin AS UkrSSR

SUBMITTED: September 23, 1959

Card 5/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V. M., CAND TECH SCI, "SPATIAL PROBLEM OF THE THEORY OF ELASTICITY FOR THICK PLATES." KHAR'KOV, 1961. (MPS USSR [MINISTRY OF RAILWAYS USSR]. KHAR'KOV INST OF ENGINEERS OF RAILROAD TRANSPORT IMENI S. M. KIROV). (KL-DV, 11-61, 219).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.M. [Dieiev, V.M.]

Representation of the general solution of a three-dimensional problem in the theory of elasticity with the aid of partial solutions to Lamé's equations. Dop. AN URSR no.11:1464-1467 '63.
(MIRA 17:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy geologii.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

BLOKH, Veniamin Izrailevich, prof.; VINOKUROV, L.P., doktor tekhn.nauk, otv. red.; DEYEV, V.M., kand. tekhn. nauk, otv. red.; VAYNBERG, D.A., red.

[Theory of elasticity] Teoriia uprugosti. Khar'kov, Izd-vo Khar'kovskogo univ., 1964. 483 p. (MIRA 17:7)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

L 29802-66 EWT(d)/EWT(m)/EWP(w) IJP(c) EM

ACC NR: AP6014218 (N) SOURCE CODE: UR/0198/66/002/004/0066/0071

AUTHORS: Deyev, V. M. (Khar'kov); Kolod'ko, V. M. (Khar'kov)

ORG: Ukrainian Correspondence Polytechnic Institute (Ukrainskiy zaochnyy politekhnicheskiy institut); Khar'kov Automobile-Highway Institute (Khar'kovskiy avtomobil'no-dorozhnyy institut)

TITLE: Axially symmetric problem in elasticity theory for transversal-isotropic thick plates

SOURCE: Prikladnaya mekhanika, v. 2, no. 4, 1966, 66-71

TOPIC TAGS: elasticity theory, [redacted]; stress analysis, aerospace structure

ABSTRACT: The equilibrium equations are solved for a thick transversal-isotropic plate to determine its displacement. The governing equations are given by

$$\frac{\partial \sigma_r}{\partial r} + \frac{\partial \tau_{rz}}{\partial z} + \frac{\sigma_r - \sigma_\theta}{r} = 0;$$

$$\frac{\partial \tau_{rz}}{\partial r} + \frac{\partial \sigma_z}{\partial z} + \frac{\tau_{rz}}{r} = 0,$$

and the plate is assumed to be under an axially symmetric load at its boundaries.

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L 29802-66

ACC NR: AP6014218

A separation of variables technique is used to solve the inhomogeneous problem; the homogeneous problem is obtained in a polynomial form in z--the normal coordinate. The latter gives for the displacement the two equations

$$u = C_1 r - 2C_1 rz;$$

$$w = C_2 + C_1 r^2 - \frac{2A_{13}}{A_{33}} C_2 z + \frac{2A_{13}}{A_{33}} C_1 z^2.$$

A numerical example is presented for a plate whose radius R is three times its thickness h. Orig. art. has: 37 equations, 2 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: 21Jun65/ ORIG REF: 002/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.N., aspirant

Constitution of fine-wool Sal'sk sheep of various classes and their principle groups established on the basis of skin folds. Izv. TSKHA no.3:67-80 '61. (MIRA 14:9)
(Sheep)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYKHMAN, Ye.K.; DEYEV, V.N.; KOCHETOVA, O.V.

Fine sheep wool. Standartizatsiia 27 no.9:41-46 S '63.
(MIRA 16:10)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.M. [Deiev, V.M.]

Reduction of a spatial and plane problem of the theory of elasticity in displacements to Neumann's problem. Dop.AN URSR no.7:868-871 '61. (MIRA 14:8)

1. Khar'kovskiy avtomobil'nodorozhnyy institut. Predstavleno akademikom AN USSR G.N.Savinym [Savin, H.M.].
(Elasticity)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V. P.

Lowering an undescended testis by Gersten's method. Sov. med. 20 no.4:74-75 Ap '56. (MLRA 9:8)

1. Zaveduyushchiy khirurgicheskim otdeleniyem Vasil'kovskoy rayonnoy bol'nitsy Dnepropetrovskoy oblasti.

(TESTES, abnormalities,
cryptorchidism, orchidopexy (Rus))
(ABNORMALITIES,
cryptorchidism, orchidopexy (Rus))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.P.

P.A. Gertsen's method in treating cryptorchism in a rural hospital. Nov.khir.arkh. no.2:26-29 Mr-Ap '58 (MIRA 11:6)

1. Khirurgicheskoye otdeleniye (zav. - V.P. Deyev) Vasil'kovskiy rayonnoy bol'nitsy Dnepropetrovskoy oblasti. Selo Vasil'kovka, Dnepropetrovskoy oblasti, rayonnaya bol'nitsa.
(TESTICLE--ABNORMITIES AND DEFORMITIES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, V.V., kandidat tekhnicheskikh nauk; KRISHTAL', L.I., redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Methods for increasing locomotive utilization] Oborot lokomotiva i puti ego uskoreniia. Moskva, Gos. transp. zhel-dor. izd-vo 1952. 174 p. [Microfilm] (MLRA 7:10)
(Locomotive--Performace)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Vladimir Vladimirovich, kand.tekhn.nauk; PEYSAKHZON, B.E., kand. tekhn.nauk, red.; KHITROV, P.A., tekhn.red.

[Heavy trains; practices, theoretical analyses, and technical and economic efficiency] Tiazhelovesnye poezda; opyt, teoreticheskie razrabotki i tekhniko-ekonomicheskaia effektivnost'. Moskva, Gos.transp.zhel.-dor.izd-vo, 1959. 331 p. (MIRA 12:6)
(Railroads--Trains)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

PA 23T10

DEYEV, YE. A.

USSR/Electricity Jul 1947
Sparks, Electric
Metallurgy

"Raising the Efficiency of Equipment Using Electrical Spark Action," E. A. Deyev, 3 pp

"Promyshlennaya Energetika" Vol IV, No 7

Last year pulsed electrical discharge was very widely used for electrical metal working machinery. This method makes it possible to cut down the rejection of material. Discusses various methods of adapting this pulsed discharge to a still greater degree and thus achieving greater economy.

23T10

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Ye.A.

UTILIN, M.N., kand. tekhn. nauk; DEYEV, Ye.A., kand. tekhn. nauk.

Studying the electric spark and other methods of grinding hard-surfacing alloys. Sel'khozmashina no.12:20-23 D '57. (MIRA 11:2)

1. Laboratoriya elektroobrabotki Nauchno-issledovatel'skogo instituta traktorosel'khozmash.
(Grinding and polishing)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

8(0) SOV/112-59-1-1048

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, Nr 1, p 139 (USSR)

AUTHOR: Ulitin, M. N., and Devev, Ye. A.

TITLE: An Electromagnetic-Vibration Machine for Drilling Small Holes

PERIODICAL: Traktory i sel'khozmashiny, 1958, Nr 3, pp 40-43

ABSTRACT: A machine is described for drilling 0.2-0.6-mm holes in metal parts; the machine uses electromagnetic vibration and has an automatic cycle. The machine spindle is driven by a type N-90, 0.2-kw, 18,000-rpm motor; the feed is driven by a type UMT, 0.049-kw, 3,000-rpm motor; an electromagnetic spindle vibrator uses 0.050 kw at 60 v. The vibrator frequency is 100 cps; its amplitude is adjustable within 15-140 microns. Vibrating the spindle improves the drilling conditions and increases the cutting speed several times. Drilling on the new machine is several times cheaper than the previously-used spark puncturing. Drawings, photographs, and an electric diagram of the machine are presented.

L. Ya. L.

Card 1/1

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ULITIN, M.N., kand.tekhn.nauk; DEYEV, Ye.A., kand.tekhn.nauk

Using current-conducting abrasives in grinding hard-alloy parts for automatized plants producing steel-bushed roller chains. Trakt. i sel'khozmash. no.11:40-45 N '58. (MIRA 11:11)
(Electric metal cutting) (Grinding and polishing)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ULITIN, M.N., kand.tekhn.nauk; DEYEV, Ye.A., kand.tekhn.nauk

Modernization of internal grinding and sharpening machinery for electroerosive machining. Trakt.i sel'khozmash. 31 no.2:43-46 F '61. (MIRA 14:7)
(Electric cutting machinery)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

ULITIN, M.N., kand.tekhn.nauk; DEYEV, Ye.A., kand.tekhn.nauk

Use of hard-surfacing equipment in an automated plant manufacturing steel-bushed roller chains. Trakt.i sel'khozmash. no.8:37-38 Ag '62. (MIRA 15:8)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.
(Hard facing) (Chains)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Ye.A., kand. tekhn. nauk; JLITIN, M.N., kand. tekhn. nauk

Power sources for the electrical spark machining of hard alloys. Trakt. i sel'khozmash. no.8:36-39 Ag '64.
(MIRA 17:11)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Yu. A.

"Investigation of the Winte r Thermal Regime of the Angara River in Connection With the Utilization of Its Water Resources." Cand Geo Sci, Moscow State U, Moscow 1953. (RZhGeo 1, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Yu. A.

"Selection of the Place of the Profile for Carrying Out Transverse Temperature Cross Sections of Rivers," Meteorol. i Gidrologiya, No 3, 1954, pp 51-53

On the basis of observations on the river Angar the author presents data that points to the predominant inhomogeneity of the temperature of the water in rivers according to width and depth. He notes considerable homogeneity of the water temperature in normal sandbanks, and therefore he recommends that one select transverse profiles for temperature measurements at the lower portions of the normal sandbanks in the neighborhood of the crest. At similar profiles it is possible to shorten the number of temperature verticals in individual cases to one. (RZhGeol, No 5, 1955) SO: Sum.No. 713, 9 Nov 55

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3

DEYEV, Yu A.

AID P - 3944

Subject : USSR/Hydr. Eng.

Card 1/1 Pub. 35 - 8/19

Author : Deyev, Yu. A., Kand. Geogr. Sci. Geogr. Sci.

Title : On Measures preventing frost formation on hydraulic engineering installations.

Periodical : Gidr. stroi., 7, 24-25, 1955

Abstract : Preventive measures taken for steel parts to combat slush and sludge on (penstocks, turbines, etc.) carried from the reservoir are discussed. The surfaces covered with paraffin or oil-saturated bitumen stay free of ice, but these agents cannot be applied on large surfaces. Some new waterproofing solutions of organic silicon (i.e. Cu_3SiCl_3) were tested and found satisfactory, but further research is deemed necessary. Seven Russian references, 1941-1954.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310018-3"